

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002657**Date Inspected:** 24-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Chen Chih-Ming, An Qingxiang			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

**Bridge No:** 34-0006**Component:** OBG side and bottom panels and tower skin p**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG new assembly bay 2

QA performed repair Ultrasonic Testing (UT) verification on one bottom panel splice joint BP14A to BP15A SEG017A-004 (7 areas). All seven appeared to be in compliance with AWS D1.5 2002 and the contract documents.

QA witnessed ZPMC Quality Control (QC) UT technicians perform repair UT on the following side panel joints: SP16 to SP24 SEG020A-001 and SP24 to SP32 SEG-020A-002. ZPMC UT technicians found both welds to be non-compliant with AWS D1.5 2002 and the contract documents.

QA observed ZPMC qualified welding personnel perform FCAW root pass on side to bottom panel joint SP26A to BP7A SEG-015A following the guide lines of WPS# WPS-B-T-223(2)-1T. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 29 Amps: 290 Travel speed: 208mm/min

QA noted that side panel to bottom panel joint SP071 to BP009 SEG-015-008 has an excessive root opening.

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ZPMCs WPS# WPS-B-T-223(2)-1T specifies a 6mm root opening. This joint has a root opening ranging from 5mm to 10mm. AWS D1.5 2002 paragraph 3.3.4.1 allows correction by welding (buttering) one or both members to bring the root opening to within +/-2mm as specified in AWS D1.5 2002. ZPMC QC was made aware of this condition by QA and has elected to butter the edge of the side panel (SP071) prior to welding the joint.

Other general observations include ZPMC personnel grinding side and bottom panels and weld bevel prep.

## New Tower Bay 1

QA observed ZPMC qualified welding personnel tack welding on tower skin plate joint# SSD1-SA173T/K-9A, 5 and SSD1-SA173K/K-1, 11A, 12A, 3, 13A and 5 following the guide lines of approved WPS# WPS-B-T-2311-B-P-3 and WPS-B-T-2211-B-U3b. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

Volts: 25.8 Amps: 222 Travel speed: 150mm/min

QA observed ZPMC qualified welding personnel back gouging tower skin plate joints SSD1-SA178C/D-11B, 16, 7B and 5B.

## New Tower Bay 2

QA noted that no welding was being performed in this bay at the time QA was present.

Other general observations in the New Tower bays include ZPMC tack welding tower skin plates, weld bevel preparation, flame straightening, CNC parts cutting, hole drilling and grinding.



## Summary of Conversations:

Only general conversations were held between QA and QC concerning this project.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry (858)-344-2712, who represents the Office of Structural Materials

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for your project.

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<b>Inspected By:</b>	Hall,Steven	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer
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